

receiving, from the second control unit, ratio information comprising information about a second power sharing ratio for the second energy storage, as calculated by the second control unit;

adjusting the calculated first power sharing ratio based on the received information about the second power sharing ratio; and

sending control signals comprising information based on the calculated first power sharing ratio, for controlling said first energy storage to inject an amount of power into the microgrid in accordance with the first power sharing ratio for correcting an observed deviation in the microgrid.

2. The method of claim 1, further comprising: transmitting ratio information about the first power sharing ratio to the at least second control unit.

3. The method of claim 2, further comprising: calculating a second power sharing ratio for the second energy storage, based on the first and second storage capabilities;

wherein the transmitted ratio information also comprises information about the second power sharing ratio.

4. The method of claim 3, further comprising: comparing the second power sharing ratio from the second control unit with the second power sharing ratio calculated by the first control unit, and adjusting the calculated second power sharing ratio based on the second power sharing ratio from the second control unit, before sending the control signals.

5. The method of claim 1, wherein the received ratio information further comprises information about the first power sharing ratio as calculated by the second control unit, the method further comprising:

comparing the received information about the first power sharing ratio with the first power sharing ratio calculated by the first control unit, and adjusting the calculated first power sharing ratio based on the first power sharing ratio from the second control unit, before sending the control signals.

6. The method of claim 1, further comprising: calculating a first power sharing gain based on the first power sharing ratio;

wherein the sent control signal information based on the calculated first power sharing ratio comprises information about said first power sharing gain.

7. The method of claim 1, wherein the calculating a first storage capability parameter is based on available energy in the first energy storage, power rating of the first energy storage, current limit of the first energy storage, and/or charge/discharge rate limit of the first energy storage.

8. A first control unit for decentralised control of a first energy storage in an electrical power microgrid comprising a plurality of energy storages each comprising a respective control unit, the control unit comprising:

a processor circuitry; and

a data storage unit storing instructions executable by said processor circuitry whereby said control unit is operative to:

calculate a first storage capability parameter for the first energy storage of the plurality of energy storages;

transmit capability information about the first storage capability parameter to at least a second control unit configured for controlling a second energy storage of the plurality of energy storages;

receive capability information about a second storage capability parameter for the second energy storage from the second control unit;

calculate a first power sharing ratio for the first energy storage, based on the first and second storage capabilities;

receive, from the second control unit, ratio information comprising information about a second power sharing ratio for the second energy storage, as calculated by the second control unit;

adjust the calculated first power sharing ratio based on the received information about the second power sharing ratio; and

send control signals comprising information based on the calculated first power sharing ratio, for controlling said first energy storage to inject an amount of power into the microgrid in accordance with the first power sharing ratio for correcting an observed deviation (Δf ; ΔV) in the microgrid.

9. An energy storage for a microgrid, the energy storage comprising:

an energy storing device, e.g. a battery or a flywheel; and

a storage controller comprising a control unit including:

a processor circuitry; and

a data storage unit storing instructions executable by said processor circuitry whereby said control unit is operative to:

calculate a first storage capability parameter for the first energy storage of the plurality of energy storages;

transmit capability information about the first storage capability parameter to at least a second control unit configured for controlling a second energy storage of the plurality of energy storages;

receive capability information about a second storage capability parameter for the second energy storage from the second control unit;

calculate a first power sharing ratio for the first energy storage, based on the first and second storage capabilities;

receive, from the second control unit, ratio information comprising information about a second power sharing ratio for the second energy storage, as calculated by the second control unit;

adjust the calculated first power sharing ratio based on the received information about the second power sharing ratio; and

send control signals comprising information based on the calculated first power sharing ratio, for controlling said first energy storage to inject an amount of power into the microgrid in accordance with the first power sharing ratio for correcting an observed deviation (Δf ; ΔV) in the microgrid.

10. A microgrid comprising:

at least one distributed generator, DG; and

a plurality of energy storages including:

an energy storing device, e.g. a battery or a flywheel; and

a storage controller comprising a control unit including:

a processor circuitry; and

a data storage unit storing instructions executable by said processor circuitry whereby said control unit is operative to:

calculate a first storage capability parameter for the first energy storage of the plurality of energy storages;